

DISTRICT COURT, WATER DIVISION 6, STATE OF COLORADO Routt County Justice Center 1955 Shield Drive, Suite 200 Steamboat Springs, CO 80487 (970) 879-5020	DATE FILED: November 7, 2018 4:59 PM FILING ID: DEED4EE7BA83C CASE NUMBER: 2017CW3045
CONCERNING THE APPLICATION FOR WATER RIGHTS OF: TERRACARTA ENERGY RESOURCES, LLC, in the South Fork of the White River, in Rio Blanco County, Colorado.	▲ COURT USE ONLY ▲
<i>Attorneys for Applicant:</i> Jefferson V. Houpt, Atty. No. 17850 Ryan M. Jarvis, Atty. No. 43981 Beattie, Houpt & Jarvis, LLP 932 Cooper Avenue Glenwood Springs, CO 81601 Telephone: (970) 945-8659 Facsimile: (970) 945-8671 Email: jeff@bhjlegal.com ; ryan@bhjlegal.com	Case Number: 17CW3045
APPLICANT’S RESPONSE TO REPORT OF THE DIVISION ENGINEER	

Applicant, TerraCarta Energy Resources, LLC (“TCER”), through the undersigned attorney, hereby submits this Response to Report of the Division Engineer dated July 13, 2018.

The following paragraphs correspond to the paragraphs set forth in the Report of the Division Engineer under “Concerns.” An initial draft proposed ruling is attached to this Response, and is being circulated among the parties for consideration and comment.

1. *The storage of water under the subject water right at the new point of diversion must be limited to that amount physically and legally available and within the decreed amount at the original points of diversion.*

Response:

Applicant agrees that this is an appropriate term and condition of approval of the requested change. It has been included as ¶ 8.A. of the proposed ruling.

2. *The applicant must provide evidence showing that South Fork Reservoir at its original location was intended to and could physically fill at a rate of 400 cfs and 70 cfs (the fill rate claimed for the South Fork Pump and Pipeline and Bar D Reservoir Pump and Pipeline, respectively).*

Response:

TCER's consulting engineers, SGM, Inc., have examined the physical and legal availability of water to satisfy the conditional water storage right decreed to the South Fork Reservoir (referred to sometimes in this Response as the "South Fork Reservoir Right") using three different approaches. All three approaches demonstrate that water is physically and legally available to fill South Fork Reservoir at rates of 400 c.f.s. and 70 c.f.s. at its originally-decreed location:

- a. SGM used the Division of Water Resources' priority analysis tool, available on the CDSS website, to run several conservative (dry-year) scenarios. The results are attached as part of **Exhibit C** and demonstrate that, even in the historically dry years of 2002-2003, the South Fork Reservoir Right would have been in priority 97% of the time. In 1994, 2012-2013 and 2018, it would have been in priority 100% of the time.
- b. Stream gage data showing flows in the South Fork of the White River near Buford indicate flows in excess of 400 c.f.s. for 28 days during the Spring of 1994 and flows in excess of 70 c.f.s. for 347 days that year. In 1997, a relatively wet year and most recent year of available data, flows in excess of 400 c.f.s. were available for 60 days, and flows in excess of 70 c.f.s. were available throughout the entire year. Historical South Fork of the White River stream gage data are provided as part of **Exhibit C** hereto.
- c. Finally, SGM ran the Division of Water Resource's StateMOD stream supply and administration model covering a 32-year period (1982–2013) adding the South Fork Reservoir Right under historical, but strict administration, conditions. The results show that the South Fork Reservoir typically fills in wet years, nearly achieves a complete fill in average years, and partially fills in dry years. The StateMOD model results are provided as the last segment of **Exhibit C**, attached.

SGM's analyses demonstrate that water is physically and legally available to fill South Fork Reservoir at rates of 400 c.f.s. and 70 c.f.s. at its originally-decreed location.

3. *Applicant must assess the contemplated draft of the subject water right and assure that the requested change will not result in an expansion of use.*

Response:

The conditional water storage right for the South Fork Reservoir was originally confirmed by the decree entered in Civil Action No. 1269 for the storage of 85,342.4 acre feet for industrial, domestic, municipal, recreation and irrigation uses. *See Exhibit A*. The decree does not elaborate on the specific plans for use of the water stored for these purposes. Testimony provided by the claimant's engineers, Clifford Jex, William Clevenger, and David Fleming in support of the appropriation identify the ultimate place of use as the Piceance Creek basin, with the water being delivered from the reservoir by gravity, via a 32-mile 60-inch pipeline. *See Exhibit B*, Transcript of Testimony, CA 1269, pp. 24-38. According to that testimony, water stored and delivered in this manner could also be used to irrigate lands between the site of the South Fork Reservoir and the Piceance Creek basin along the route of the pipeline. The route of the pipeline is shown on **Exhibit D**.

Since the original adjudication, Applicant's predecessors have obtained regular findings of reasonable diligence in which the water court has recognized that the South Fork Reservoir Right has been intended for use in the development of energy in the form of oil or synthetic fuels from oil shale (*see*, for example, decrees entered by the District Court in and for Water Division 5 in Case Nos. W-787-76, 80CW220, 84CW174, 88CW158, 95CW253). In the most recent decree continuing the South Fork Reservoir Right, Case No. 10CW0029, Water Div. No. 5 (**Exhibit E**), the court found that the South Fork Reservoir Right is a component of Shell's Water Supply System that will provide water for the development of "Shell's Property," comprised of more than 50,000 acres in Western Colorado intended to be developed for the production of oil and gas from oil shale and ancillary uses.

The change proposed in this proceeding represents a further refinement of Shell's Water Supply System (now known as "TCER's Water Supply System") by which TCER continues to pursue the original intent of the appropriation by relocating the place of storage to a combination of more logical, convenient and efficient locations that are substantially closer to the ultimate place of use. As such, the South Fork Reservoir Right will continue to be used for its originally contemplated purposes at its new locations. Because TCER is not changing the type of use or place of use, the proposed change will not increase the demand or consumption under the South Fork Reservoir Right. By limiting storage at the new locations to the amount physically and legally available at the original location, there will be no enlargement of the impact of this water right on the stream beyond that contemplated at the time of the original appropriation.

4. *Applicant has not requested a change in place of use for South Fork Reservoir. Applicant must provide evidence showing that the originally intended place of use will not change as a result of this request. Additionally, the applicant must explain how they intend to apply or get water to the original place of use from the new location(s), and provide evidence showing that they can and will accomplish this.*

Response:

The original place of use of the South Fork Reservoir Right for all decreed purposes was the Piceance Creek basin and, for irrigation purposes, lands along the pipeline route between the originally-decreed location of the South Fork Reservoir Right and the Piceance Creek basin. See **Exhibit B**, Transcript of Testimony, Civil Action No. 1269, pp 24-38). The original plans were to deliver water stored in South Fork Reservoir via a 32-mile 60-inch pipeline to the headwaters of Piceance Creek. From there, the water would be delivered downstream into the Piceance Creek basin for uses associated with the development of energy resources.

TCER believes that this method of delivery will be difficult and expensive, and that it can deliver water to this place of use at lower cost and lower environmental impact by relocating the place of storage downstream to a location on the White River that is substantially closer to its place of use, and then pumping the water up to its ultimate place of use.

Water will be delivered from the relocated South Fork Reservoir to the proposed Bar D Reservoir via a pipeline commencing at the YZ Point of Diversion (described in the response to Item 6 below) and terminating at the Bar D Reservoir; from there, the water will be pumped to its ultimate place of use. The YZ Point of Diversion is the same point of diversion approved for use in diverting TCER's direct flow water right for the South Fork Piceance Pipeline that was approved in Case No. 04CW110, Water Division 5.

5. *Any water right located between the originally decreed point of diversion on the South Fork of the White River and the proposed locations (include the intervening tributaries), would have never been subject to a call by or administration including the subject water right. Likewise, for the Bar D Reservoir, no part of the Yellow Creek drainage would have ever been subject to an administrative call for such right or for such right to have been allowed to operate in priority. As such, in the event of a call, this office will only curtail those rights that would be subject to administration at the original location and water will not be allowed to be stored in priority to the detriment of intervening water rights. All this said, adequate language must be included in the decree that adequately protects all intervening water rights from injury, or as another option, the subject water right could be considered a 2017 water right when diverted at any of the new locations.*

Response:

TCER recognizes that water rights located in the reach of the White River and the South Fork of the White River between the originally-decreed location of the South Fork Reservoir Right and the new locations at which the South Fork Reservoir Right will be exercised in the future ("Intervening Water Rights") are entitled to be protected from injury resulting from the proposed change. TCER also recognizes that the Intervening Water Rights were not previously subject to a call placed by the Subject Water Right, because it was originally located upstream of those Intervening Water Rights. However, Intervening Water Rights that are junior to the South Fork Reservoir Right would have experienced a reduction in streamflow at their points of diversion when the South Fork

Reservoir Right was being exercised in priority at its original location. By limiting the exercise of the South Fork Reservoir Right at its new locations to the amount physically and legally available at its original location, Intervening Water Rights will experience no greater reduction of streamflow at their points of diversion than they would have experienced by the exercise of the South Fork Reservoir right at its original location.

One method of administering the water rights in a manner that both protects Intervening Water Rights from an enlargement of the effect of exercising the South Fork Reservoir Right at a downstream location and (b) allows the South Fork Right to store the water physically and legally available at the original location is to (1) prohibit the South Fork Reservoir Right from placing a call on Intervening Water Rights and (2) ensuring that Intervening Water Rights do not divert the water that would have been stored at the original location but is now being stored at a downstream location. Terms and conditions to this effect have been included in the proposed ruling

6. *As questioned above, the applicant should explain what they are attempting to do by moving the South Fork Reservoir water right down to the sites of Wolf Creek Off-Channel Reservoir and Wolf Creek Mainstem Reservoir.*

Response:

TCER is attempting to relocate its storage facility for the South Fork Reservoir Right to a location that is closer to its ultimate place of use, and to consolidate the operation of infrastructure used to divert water under its direct-flow South Fork-Piceance Pipeline with the delivery of water stored under its South Fork Reservoir Right.

In Case No. 04CW110, Water Division 5, the water court approved the relocation of the point of diversion of TCER's South Fork-Piceance Pipeline to a point on the White River sometimes referred to as the "YZ Point of Diversion" or "YZ POD." TCER has obtained the right to use a 35-acre parcel at the YZ POD upon which to construct pumping facilities and a pipeline to deliver water to its lands in the Yellow Creek and Piceance Creek basins. TCER intends to locate a storage facility near the YZ POD so that at times when its direct flow South Fork-Piceance Pipeline right is out of priority, it can continue to deliver water from storage via the same infrastructure. TCER's predecessor, Shell, identified potential storage sites at the same two alternative locations now claimed by the Rio Blanco Water Conservancy District for its Wolf Creek Reservoir storage facility, which are the subject of Case No. 14CW3043. In fact, the on-channel alternative Wolf Creek Reservoir would extend to the YZ POD, making that site an ideal location for a storage facility in which to exercise the South Fork Reservoir Right. TCER hopes to work cooperatively with the Rio Blanco Water Conservancy District in its development of one of the Wolf Creek Reservoir alternatives, but if the District is unable for some reason to construct a storage facility at one of those locations, TCER intends to do so as a facility in which to exercise its South Fork Reservoir Right.

7. *All conditional appropriations are subject to the anti-speculation doctrine. The anti-speculation doctrine to which an applicant must adhere when applying for a conditional water right continue to apply to diligence applications as well as change of water right applications. The purpose of the anti-speculation doctrine is to prevent the hoarding of water rights. The anti-speculation doctrine prevents entities from accumulating numerous, unnecessary conditional water rights in a manner detrimental to other water users. This said, the applicant must demonstrate that a diversion and ultimate beneficial use of water can be made at the location or locations identified in the subject case and that the requested change is not speculative.*

Response:

Relocation of the South Fork Reservoir Right to the alternative locations identified in the Application in this case is a logical refinement of TCER's Water Supply System that reflects TCER's intent to complete the appropriation initiated by its predecessors. The proposed relocation will facilitate the application to beneficial use of water stored under the South Fork Reservoir Right. Rather than attempting to construct a storage facility within the Flat Tops Wilderness Area and 32 miles of 60-inch pipeline, with all the attendant environmental impacts, permitting, and right-of-way acquisition obstacles, TCER is proposing to relocate the storage facility to a location that is not only closer to its ultimate place of use, but that also makes use of infrastructure already planned for the exercise of its direct flow right, thereby substantially reducing costs and creating efficiencies. In furtherance of this effort, TCER has already acquired the right to use lands for construction of pumping facilities at the YZ POD, installed a road and power to that site, demonstrating its intent and ability to deliver water stored near that location to its ultimate place of use.

8. *The applicant should provide evidence showing that they can and will complete the appropriation at the new point(s) of diversion.*

Response:

The development of energy from oil shale is a substantial undertaking, and one that is not completed within a timeframe similar to other projects. However, TCER is continuing to take meaningful steps toward the development of energy from oil shale initiated by its predecessors and substantially advanced by its immediate predecessor, Shell Frontier Oil & Gas, Inc. ("SFOGI"). The magnitude of this project is described in the affidavit of Richard Mykitta, former Operations Manager of Shell Production & Exploration Company's Mahogany Research Project and current consultant to TerraCarta Energy Resources, LLC. The affidavit was originally filed in Case No. 08CW007, Water Division 5, and a copy is submitted as **Exhibit F** to this Response. Since its acquisition of the Shell assets, TCER has continued the process initiated by SFOGI of analyzing its assets with a goal toward refining and streamlining its energy development plan. That process includes reconfiguration of TCER's Water Supply System to achieve greater efficiencies. Relocation of the South Fork Reservoir Right to a location closer to the

place of use and that can take advantage of pumping and delivery infrastructure already planned for exercise of TCER's direct-flow right is a concrete example of the effort to refine, streamline, and create efficiencies that reduce the cost of developing the resource.

On the ground, TCER has recently extended its right to use lands for the construction and operation of pumping facilities at the YZ POD; a permit from the Army Corps of Engineers has been obtained; a road has been constructed into the site; \$13,000.00 has been expended on civil engineering; and \$36,000.00 was paid to White River Electrical Association for the installation of electrical infrastructure necessary to power the pumping facilities. All these activities and expenditures demonstrate TCER's intent and ability to deliver water stored near that location to its ultimate place of use.

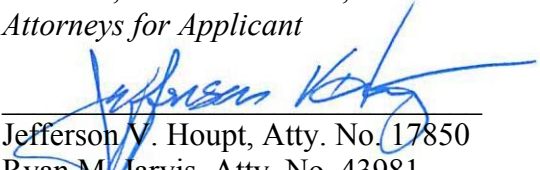
9. *Adequate terms and conditions must be included in the final decree assuring there will be no injury to any other water rights as a result of the requested change.*

Response:

Terms and conditions to avoid injury resulting from the change requested in the application have been included at ¶8 the proposed ruling. The Court's approval of the requested change is expressly subject to those terms and conditions (*see* ¶19 of the proposed ruling).

Respectfully submitted this 7th day of November, 2018.

BEATTIE, HOUP & JARVIS, LLP
Attorneys for Applicant



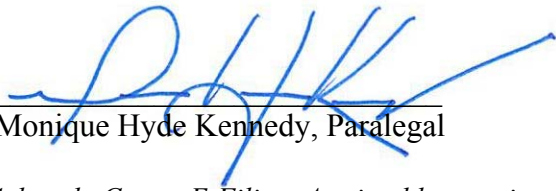
Jefferson V. Houpt, Atty. No. 17850
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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing **Response** was sent as follows this 7th day of November, 2018:

E-Service

Name	Type	Attorney	Organization
4M Ranch, LLC	Opposer	Claire E. Sollars	Cantafio Hammond PC
Colorado Water Conservation Board	Opposer	Andrew Nicewicz	CO Attorney General
Division 6 Engineer	Division Engineer	Division 6 Water Engineer	Water Resources Steamboat
Exxon Mobil Corporation	Opposer	Kristin Howse Moseley	Porzak Browning & Bushong, LLP
Mountain Water LLC	Opposer	John David Buchanan	Buchanan Sperling & Holleman, PC
Mountain Water LLC	Opposer	Paul F. Holleman	Buchanan Sperling & Holleman, PC
Puckett Land Company	Opposer	Megan Gutwein	Berg Hill Greenleaf & Ruscitti, LLP
Puckett Land Company	Opposer	Peter D. Nichols	Berg Hill Greenleaf & Ruscitti, LLP
Rio Blanco Water Conservancy District	Opposer	Edward Bryan Olszewski	Olszewski, Massih & Maurer, PC
State Engineer	State Engineer	CO Div of Water Resources	State of CO - Div of Water Resources
The Oil Shale Corporation	Opposer	Matthew Lake Merrill	White & Jankowski, LLP
The Oil Shale Corporation	Opposer	Jacques Serge Ruda	Girsh and Rottman, PC
United States of America	Opposer	Kristen C. Guerriero	US Attorneys Office


Monique Hyde Kennedy, Paralegal

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